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### CASE OF POISONING BY VERATRUM VIRIDE.

[Read before the Middlesex East District Medical Society, and communicated, by the Secretary, for the Boston Medical and Surgical Journal.]

By J. C. HARRIS, M.D., OF WEST CAMBRIDGE.

J. C., aged 1 year and 6 months, was attacked with pneumonia, from which he made a good recovery, the chief remedy in the active stage being veratrum viride—the dose being four drops of the tincture, repeated every four hours. When the child ceased taking the veratrum, there remained forty or fifty drops mixed with water, in the proportion of four drops to a teaspoonful, which the mother saved for future use, keeping it in a cup four or five days, then pouring it into a bottle. About six weeks after this, the child caught cold, was feverish, and had some difficulty in breathing. The mother commenced giving the veratrum every half hour, in teaspoonful doses of the mixture she had saved, until four or five doses had been given; a tablespoonful was given for one dose by mistake. The whole quantity taken was probably not less than thirty-five drops, for the four or five days' evaporation must have increased the proportionate strength of a dose at least one drop.

There was an effort to vomit after the second dose, but without ejecting anything from the stomach. Efforts to vomit were made every few minutes, but without success, except once, when a small quantity passed from the mouth. I was called to the child about seven hours after taking the first dose. I found him apparently unconscious, very pale, breathing heavy—almost stertorous; pulse 40, extremities cold, and a profuse cold perspiration over the whole body. These symptoms I supposed were the result of the large doses of the veratrum. I made no attempt to remove the contents of the stomach, but ordered mustard paste to be applied to the chest, abdomen and extremities, and carbonate of ammonia and camphor—three grains of the former to one of the latter—every hour, and a drachm of brandy intermediately. This treatment was

VOL. LXXH.—No. 13

kept up until the child died, about thirteen hours after taking the first dose of the veratrum.

REMARKS.—This child had always been feeble, and his mother was in the habit of frequently dosing him for real or imaginary sickness. It is possible, if not probable, that the result would have been different had there been free emesis within an hour or two after taking the medicine. I did not attempt to remove the contents of the stomach, for the case seemed almost hopeless when I first saw it.

This is the first case of death from an overdose of veratrum viride I have seen or heard of, and therefore it is possible I did not pursue the best course of treatment.

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NOTE BY THE SECRETARY.—This case is very interesting, from the fact that it is the first well-authenticated case of poisoning from the use of the veratrum viride. It did not result from its legitimate employment under the direction of a physician.

Another point of interest is the fact that the alkaloids suspended in water should keep their strength for six weeks. Those who are familiar with the action of the tinctura veratri viridis with water know that on keeping a few days, a dirty, unpleasant-looking sediment is deposited in the bottom of the vessel, which has usually led to its rejection as worthless.

Still another point is the absence of free vomiting. Perhaps the nature of the drug might have been so changed as to have impaired the emetic without destroying the sedative properties.

The relation of this case should not hinder any from administering the veratrum when it is indicated. It must have been given tens of thousands of times, but this is the first well-authenticated case of death that has come to the knowledge of the Veratrum Viride Committee of this Society. The veratrum viride is used at present by the members of this Society, and the confidence in it has grown with its use as the most reliable arterial sedative known to us.

*Woburn, March 24th, 1865.*

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#### MEDICAL TESTIMONY.

[Communicated for the Boston Medical and Surgical Journal.]

MESSRS. EDITORS.—Truth is the great end of all investigation. The cause of truth requires the most critical examination and careful discrimination. Errors and mistakes in the observation of facts, and in opinions based upon them, may have been unavoidable for want of attention or haste, but they are unjustifiable in all matters of medical jurisprudence, especially when committed by that class of witnesses called experts—a class who are, at least by the laws of Maine, favored by unlimited reward; and who are expected to possess talents and attainments far beyond those of ordinary skill and knowledge.

In cases of strangulation, where the question whether homicidal or suicidal arises, it seems unfortunate that the cause of truth should require anything more than sound common sense and accurate representation. But such is the sympathy of friends and of the community in behalf of the accused, and such are the technical and legal guards thrown around the alleged criminal, that fair and candid investigation does not satisfy. Something more must be said and done. Extraordinary facts and opinions, supported by extraordinary science, must be resorted to in order to color a circumstance or sharpen a point on which to hang a doubt. With these preliminary remarks, I desire to call the attention of medical witnesses to the following case:—

A woman was found dead in bed. Her face was suffused with blood. Her eyes protruded from their sockets. Her tongue was thrust out of her mouth, from which issued bloody saliva. On her neck were several oval, dark-reddish spots. They were found in front, just over and above the larynx; and also about an inch and a half from the mesian line each side of the larynx. There were three of these spots on the right side and two on the left. At least two small, crescent-shaped marks accompanied the spots on the right side. These spots produced some abrasion of the cuticle, and were all rather oval in shape and of the size of a ten-cent piece. A *post-mortem* examination found the lungs engorged with black fluid blood. The right side of the heart was full of blood of this color and consistence. The left side was nearly empty.

Around the neck of the deceased was found a silk scarf—a yard or more long, an inch or an inch and a half wide—such an one as was worn upon the neck of a man two years ago. This scarf was found on the neck as follows:—The middle of the scarf was placed in front of the larynx—then the end on the right side was carried around behind the neck to the left side in front, while that on the left side was carried in the opposite direction, till both ends met in front, and were, without any knot, grasped near their extreme ends by the left hand of deceased—the hand being about ten inches from the front of the neck. It was not drawn tight about the neck. There was no circular mark or abrasion of the cuticle on the neck in the track of the scarf to show that it had at any time been drawn tight about the neck.

At the trial, in the Supreme Court, the question arose—Was this suicidal or homicidal strangulation? In answering a question like this, on the part of a medical witness—be he expert or not—there ought, it seems to me, to be no difficulty in reconciling the facts and opinions of those of one side with those of the other. Science should have no incompatible and conflicting opinions where the incompatibility rests upon identical facts.

The greater number of medical witnesses in this case gave it as their opinion that this strangulation was homicidal. 1. Because it

is impossible for any person to strangle himself with his own hand voluntarily applied. 2. It could not have been done by the scarf in the manner this was applied. 3. It was not done with the scarf as it was applied, either by the deceased or another. 4. The marks and spots on the neck were, most probably, made by another, and not by the deceased, and were produced by the application of the fingers to the throat.

On the contrary, it was testified by an expert, after referring to the fact that suicide is often committed without any particular motive before hand, "that this scarf, put on as this is said to have been, might be constricted so as to cause death. There is no insuperable difficulty. In such case the *contraction* might be continued through the death struggle and *perpetuated* in the dead body."

The testimony here presented is totally incompatible and utterly irreconcilable. On the one side, it is stated that the strangulation could not have been produced by the hand of the deceased, or by the scarf as applied to the neck, with the appearances connected therewith. On the other hand, it is stated, with equal force and confidence, that the deceased could have committed strangulation upon herself with the scarf as here applied, with all the attending circumstances; and that she could have produced so much constriction as to cause death, without any insuperable difficulty.

It becomes a matter of grave importance which was right—which opinion subserves the cause of truth. Who will credit medical testimony if, on a question of science, it is so utterly irreconcilable?

I venture the assertion that a person cannot commit suicide by applying a scarf to the neck, in the manner this was said to have been, so as to cause death by his voluntary efforts. It is an impossibility. And I would assert further, that with all the attending circumstances, it is most extraordinary that a medical witness could express such an opinion.

MEDICUS.

[We fully agree in opinion with the writer of the above communication.—EDS.]

#### REVIEW OF DR. TULLY'S SYNOPSIS OR CLASSIFICATION.

[Continued from page 240.]

WITH regard to the genuineness of the first twelve of these classes, as has been already said, there is scarcely room for disagreement. All writers on pharmacology, whatever arrangement they adopt, and those who profess to have no arrangement, are obliged to make constant use of them. We can neither write nor talk intelligibly upon the subject without doing so. They are not all of equal importance, of course, yet each one of them must be regarded as indispensable. There is no intelligent practitioner, whatever he may say in depre-



cation of the use of drugs, or to induce us to discard all but half a dozen, who would not consider his hands tied and his usefulness curtailed to an important extent, if deprived of either of the twelve powers on which the first twelve of these classes are founded. But in regard to the six new ones there may be more room for doubt; hence it is necessary to say a few words about each of them.

1st. *Adenagics*.—An adenagic power has been partially and indistinctly recognized, yet no one has directed particular attention to it. It has never been defined, and consequently has never, in modern times at least, been made the foundation of a class. That a variety of opinions have been entertained in regard to it, may be inferred from the diversity of names that have been applied to it. It has been called deobstruent, alterative, liquefacient, attenuent, detergent, aperient, resolvent, anti-syphilitic, anti-cachectic, and by as many others that might be mentioned; and with ideas of their operation suggestive of one or another of these names certain articles are prescribed almost daily and by all physicians. If Dr. Tully's definition is accepted, and we see not how it can be otherwise, it will be seen to be one of the most important powers in the *materia medica*, and one that must be often called for in practice.

The fact that most of the effects specified in the definition sometimes take place indirectly from the use of articles that belong to some other class, and that possess no adenagic power, does not disprove the distinctness of an adenagic power, nor obviate the necessity of a class founded upon it. This only shows the importance of the word directly at the commencement of the definition, for that there are articles that act directly in this way, and independent of any other operation, will not be disputed. Indeed, this is the only power for which several important articles are ever prescribed. Most of the preparations of mercury possess it in a high degree, and are seldom used for any other; or if they have any preference over other articles for their emetic or cathartic operation, this preference is due to the adenagic power they exert in connection with their emetic or cathartic power. Its sialagogue effects are but a part of its adenagic operation; as are doubtless its occasional emmenagogue, expectorant, diuretic and diaphoretic effects. In short, if deprived of its peculiar operation upon the secernents and absorbents, or glandular system, mercury in all its forms might be dispensed with and probably would be. This is the only power for which sulphur and iodine are ever prescribed; it is the only power of *leontodon taraxacum*, and the most important one of *conium maculatum*. *Colchicum autumnale* exerts no other that is of any value; and there are other articles that are occasionally prescribed for some other power, but which are chiefly valuable for their operation upon the secernents and absorbents or glandular system.

It has always been difficult to find a place for these articles in any classification heretofore proposed, and false notions have been

propagated by their false reference, or by their being classed with others with which they have little or no affinity. Colchicum, for instance, has been classed with both the cathartics and diuretics, because it happens to possess these in addition to its adenagic power; and yet it can never be a convenient or available article for its diuretic or cathartic operation; and thus it has happened that some of the more important articles of this class, and some of the most important in the *materia medica*, have been scattered about in different classes by systematists according to their subordinate and often useless powers, which they happen to possess in addition to their adenagic power; their classification having no reference and giving no clue to their most prominent and useful operation, and the only one for which they are ever prescribed.

This power is distinct from all others, and has all the essential characteristics of those the genuineness of which is admitted. The class founded upon it is a large one, and the articles belonging to it, as is the case with all the other classes, differ among themselves, not only as respects the quality of their adenagic power, but as to the parts or organs upon which it is more especially manifested; and also as to the specific character of the diseases to which they are more especially adapted. They differ also as respects the other powers with which their adenagic power may be associated. As with the articles of all the other classes, therefore, there is occasion for the exercise of much knowledge and judgment in their administration. Hence the importance of their being brought together, compared with each other, classified and arranged, and made a distinct subject of investigation.

2d. *Erethistics*.—There is a set of articles, most of which have come into use in modern times, and have been classed with the narcotics; though they have been treated of separately by various writers, and are now very generally considered as in some way distinct from other articles belonging to this class, and by way of distinction have been called acrid narcotics. This compound term is inappropriate, for the reasons, first, that many of the articles, and some of the most prominent among them, as *strychnos nux-vomica* and *squætea amara*, have no acrid properties, but have been associated with others that have, as *aconite*, *arnica*, &c., because they are found to agree with them in their general operative effects; and second, because the effects of none of them have the slightest resemblance to those of the true and proper narcotics, except that they are wholly manifested upon the brain and nervous system. They can in no case be used as substitutes for the narcotics; Turnbull, himself, who gave them this name, says that "no narcotic effects have been observed to arise from their use." The term narcotic, therefore, is as inappropriate as the term acrid, and is more objectionable because more likely to mislead.

There are a large number of articles whose effects are principally

manifested upon the brain and nervous system, yet differing so much in kind that they have long since been divided into two classes—narcotics and nervines. The latter are sometimes called antispasmodics, but Dr. Tully calls them euphrenics. Now the operation of these acrid narcotics, as they are called, is no more like that of the true and proper narcotics—opium, datura, hyoscyamus, &c.—than it is like the true and proper euphrenics—chloroform, valerian, musk, amanita muscaria, &c. It is no more like one or the other of these, than these are like each other. It is distinct from both, and there are precisely the same reasons for making three that there were for making two classes of them.

The effects of this third power, when carried to a certain extent, may be appropriately expressed by the word *erethism*, and the class founded upon it may therefore be called *erethistica* or *erethistics*, which, as already explained, signifies to *provoke*, to *irritate*, to *arouse*, &c. For the purpose of diagnosis, as well as to show more clearly that there is a necessity for this class, and that it has a true foundation, it may be well to bring together and compare these three powers—the narcotic, the erethistic and the euphrenic—each of which acts wholly upon the brain and nervous system, and in such a manner that the classes founded upon them would stand together and constitute a natural group in an arrangement of the classes among themselves. Most that will be needed, however, will be to quote from their definitions; and we will first compare the primary grades of their operation, and afterwards their secondary or ultimate effects.

The *narcotics* first allay irritability and irritation, restlessness, agitation and watchfulness; *second*, they allay pain; and, *third*, they produce more or less somnolency, or even positive sleep.\*

The *erethistics*, in the first degree of their operation, produce a preternatural degree of activity and an augmented exertion of the powers and energies by which any function is discharged. They give no new or additional power or energy, differing in this respect from the antisbestics (*stimulants*), but only bring into greater activity that which already exists, and which was perhaps latent or prostrated to a greater or less degree.†

The *euphrenics* first obviate languor and lassitude where they exist; *second*, produce a peculiar calm, placid and pleasant state or condition; *third*, preternatural wakefulness; and *fourth*, more or less

\* These are essential though only subordinate parts of a narcotic operation. Neither an antirritant, anodyne or soporific effect can be regarded as fundamental; as to found a class upon either of them would be useless if it were practicable. To call an article that exerts neither of them a narcotic would be a misnomer.

† The most striking manifestations of this power have been witnessed from the use of nux vomica and aconite in certain paralytic affections, in which the narcotics are supposed, at least, to produce no effect that is beneficial. The erethistics produce, instead of allaying irritation. They are neither antirritant nor soporific, at least in the sense in which the narcotics are, nor are they anodyne in any sense.

positive exhilaration, in which the actions of the subject are not under the control of his will, and perhaps amount to actual delirium.

In the primary grades of these effects, therefore, the distinction between these three powers or classes is sufficiently obvious; but in their secondary or ultimate effects it is still more prominent and even striking.

*Coma* is the most prominent and uniform symptom of *ultimate narcosis*; whereas,

*Stupor*, or numbness attended with a prickling sensation or formation, as it is called—a sensation like that of a limb when it is said to be asleep—commencing usually in the lower extremities and extending to other parts of the body, often attended with imperfect obedience of the muscles of voluntary motion to the influence of the will, without coma, is *ultimate erethism*.

*Anæsthesia*, or a state of insensibility to pain, as produced by chloroform, the fifth grade of a euphrenic operation, which immediately succeeds the high degree of exhilaration, is *ultimate euphrasy*.

Several of the more potent articles belonging to each of these classes are capable of destroying life, and hence are called poisons; but they differ in their poisonous effects, or in the manner in which they destroy life. But as the articles of each class differ so much among themselves, it would be difficult to describe how each class differs from the others in these respects.

As the euphrenics, having long been considered a distinct class, are now easily distinguished from the narcotics, so the erethistics, when they are as well understood, will be as readily distinguished from both the narcotics and the euphrenics.

In their therapeutic applications the narcotics and erethistics differ as widely as in their operative effects. Those who have directed particular attention to the latter, as a distinct set of articles, and given them the name of acrid narcotics, do not recommend them for any of the purposes for which the true and proper narcotics are given. On the contrary, the benefits attributed to them are said to be "unattended with any narcotic influence."

These must be considered as sufficient reasons for regarding an erethistic power as distinct, and arranging the articles in a distinct class.

3d. *Oresthetics*.—This single power has been made the foundation of three distinct classes—viz., the rubefacients, epispastics and escharotics; all dependent upon its external topical application, differing only as to the degree in which it is exerted, and without reference to its internal, which is by far its most important use. Several of the articles, to be sure, are given internally, but then they are transferred to the class stimulants, and to distinguish them from others of this class are called acrid stimulants. But very few of them, however, exert any true stimulant, or what Dr. Tully calls antisbes-

tic power; and then only in so slight a degree that they can never be relied upon when antisbestics are urgently called for. It is their acrid, or what Dr. Tully calls their oresthetic power—their power to arouse susceptibility, remove torpor, increase sensibility when it is deficient and lessen it when it is in excess, and thus, independently of any stimulant or antisbestic power they may exert, change morbid to healthy action, which is most important. When given internally, their impression is made primarily upon the mucous membranes to which they are immediately applied; and, secondarily, by textural sympathy upon those of remote organs. When applied externally, their operation is the same, modified only by the difference in the structure and functions of the skin and mucous membranes.

This power, of its internal use especially, has not been duly appreciated. Dr. Tully was the first to define it clearly and direct attention to it as a fundamental power. As to the genuineness of the class and its great importance, there can be no question. The articles belonging to it are numerous, and the principles to guide us in their therapeutic application have no where been embodied except in Dr. Tully's proem to this class.

4th. *Neuragics*.—The deleterious or poisonous effects of lead upon the human system are well known. Arsenic exerts the same power, and with more intensity. It is by this, probably, that it destroys life. Carbonate of lead, if taken freely, would doubtless prove fatal with as much certainty as arsenic, though not as speedily. There are a variety of articles, mostly from the mineral kingdom, that exert the same power, though not many of them to such an extent as to have placed them in the category of poisons. But it may not be so generally understood that this same power, like most others that are considered poisonous, may be turned to good account in medicine. Certain kinds of irritation, erethism, spasms or convulsive actions are amenable to this class of articles that are not at all or but slightly so to opium or any of the ordinary antirritants or antispasmodics. A writer who calls them mineral sedatives, and who seems to be as familiar with them as was Dr. Tully, speaks of them as follows: "They are better defined by their morbific, or what may be called their poisonous operation, than by their medicinal or curative effects; and yet these last are obvious enough in practice. We see them in the relief of morbid sensibility and irritability, the abatement of unnatural frequency and irritation of the pulse, the control of restlessness and pain of the neuralgic sort, and the counteraction of the spasmodic diathesis generally; we see them when acetate of lead removes the erethism which attends hæmorrhagic cases, or cures irritable or spasmodic cough; when nitrate of bismuth or prepared chalk, or even tartar emetic in large doses, allays vomiting; when calomel, in drachm doses, controls diarrhœa; when nitrate of silver, oxide of zinc, or ammoniated copper, overcomes epilepsy and other spasmodic diseases. In all these cases sedation

of some sort is the prominent medicinal operation. But the toxicological or morbid effects of the remedies of this class are more palpable and more easily described. These are never sought in prescription, but result from non-medicinal doses and uses."

The effects of acetate of lead in arresting hæmorrhage may be attributable as much to its neuragic as to its styptic or astringent power in many cases; and when this power is better understood and more generally recognized as belonging to calomel, this may help us to reconcile some of the conflicting statements in regard to this article, and at the same time give us more precise and rational views of its general therapeutic application.

The writer just quoted says:—"If Dr. Tully had done nothing more for scientific medicine than to write his proëm to the class *neuragica*, containing forty-five pages, he should take rank with the foremost medical authors of his day. By unwearied industry and great analytic power, he has separated from their combinations a class of facts hitherto overlooked or imperfectly understood, pointed out their characteristics, shown their great importance, and given them a place in classification."

5th. *Nauseatics*.—The first question that suggests itself is, whether a nauseatic is distinct from an emetic power. It should be borne in mind that while nausea is a sensation merely, vomiting is an action or motion; that nausea, being one of the numerous varieties of common sensation, must have its seat in nerves of sensation, derived from the two posterior columns of the spinal cord; while retching and vomiting are involuntary motions, and as such must have their seat in the involuntary motor nerves of expression, derived from the medullary or nervous tract, situated between the two posterior and the two anterior columns of the medulla oblongata and upper part of the spinal cord. These nerves are next to the stomach and œsophagus, while we have no evidence of their being sent to any part of the alimentary canal below the stomach. Nausea and vomiting, therefore, depend not only upon distinct nerves, but upon distinct systems of nerves, not necessarily associated in their functions, but capable of association under certain circumstances. Hence they take place independent of each other, and we may have nausea without vomiting, and sometimes vomiting without nausea. It would be a great mistake to suppose that nausea is only an incipient or an imperfect grade of vomiting. Moreover, they differ widely in their effects or therapeutic applications, and are seldom if ever indicated at the same time. When vomiting is desired, nausea is not; and when we want the best effects of nausea, vomiting interferes with and retards them. Nausea coincides with and enhances antiphlogistic effects. In this respect the nauseatics have much the same relation to the antiphlogistics that antiseptics have to tonics. If protracted and caused by tartrate of antimony and potassa, which is strongly antiphlogistic independent of its nauseatic power, its anti-



phlogistic effects may be nearly equal to those of bloodletting. Like the latter, therefore, it is to be avoided as much as possible when we would prevent exhaustion, while vomiting in some such cases may be beneficial, but should be produced, of course, by articles that cause the least nausea. Though a catalogue of the nauseatics would coincide very naturally with that of the emetics, yet it would not do so exactly, and as the two processes differ so widely as therapeutic agents or processes, they need to be treated of separately. Such were Dr. Tully's reasons for regarding them as distinct, and we think them sufficient.

6th. *Ergastics*.—The physician has frequent occasion to prescribe some form of exercise, active or passive—bathing, friction, rubbing or some of the agencies or appliances comprehended in the term shampooing, either as principal or auxiliary means for the restoration of health. The consideration of these belongs to the pharmacologist; and the bringing them together, arranging and comparing them must be preliminary to a good treatise upon this whole subject, which is so much needed. May we not expect such an one ere long from some of those who trust in nature and think lightly of drugs? Though the last in our list, it is by no means the least important. It is to be regretted that Dr. Tully did not live to write his proëm to this and also the class anthelmintics, a spurious class as he regarded it.

Some years ago, a man in New York gained a reputation for curing dyspepsia, and, according to his announcement, without the use of drugs. For a time his treatment was kept secret; but it came out at last, and was found to consist wholly in kneading the bowels, or in manipulating and mechanically agitating the abdominal viscera for a certain length of time and at stated intervals, till their natural action was restored. Certain natural bone-setters, as they are called, have gained celebrity by means that may have been too much neglected by educated surgeons; viz., by moving, exercising or handling, with a certain degree of violence even, injured or diseased joints; with the pretence, of course, of setting dislocated bones. To ignore the success of all such celebrities and refuse to take hints from their methods, is not to act the part of a wise or high-minded physician.

Upon a close examination of the manner in which the last six classes are founded, it will be perceived that they are in every way analogous to, and have all the essential characteristics of the twelve preceding ones; and doubtless when we become as familiar with their use, they will be found as indispensable in practice. There are several of the old classes that are of less importance than either of the new ones.

#### *Doubtful Classes.*

Besides the twelve old and the six new classes thus admitted as genuine, there were three others that were doubtful—viz., emmenagogues, blennagogues and ecbolics.



We have no articles at present that act directly upon the catamenial excretories to excite their activity. Stephenson and Churchill, however, think there are two European plants—*chenopodium vulvaria* and *charoxylum foetidum*—that have been recently ascertained to act in this way, and are to be considered as true and proper emmenagogues; but as all that have been used for this purpose and have been so called heretofore, obviously produce their emmenagogue effects by virtue of an adenagic, tonic, antisbestic, or some power which is already the foundation of another class, their opinion needs confirmation. Nevertheless, it is possible, perhaps even probable that such a power will yet be discovered as belonging to some article but imperfectly understood or wholly unknown at present.

There is the same uncertainty about blennagogues, or articles that act directly and independent of an adenagic, oresthetic or antisbestic power to increase the secretion from the mucous membranes generally. There are none at present known to act in this way; and yet both true and proper blennagogues and true and proper emmenagogues may be looked for, and with some hope of success.

There is scarcely a more interesting problem in therapeutics than the *modus operandi* of ecbolics. If Dr. Tully's is not the first attempt to solve it, it is the only one worth considering. Though ingenious and plausible, it may be deemed hypothetical, as must be, to some extent at least, most of our explanations of the *modus operandi* of medicines at present. His inferences, drawn from undisputed facts, are legitimate and rational. Instead of an hypothesis, therefore, it may be better characterized as a rational discussion about facts that may prompt and direct further inquiry. If his explanation is true, an ecbotic operation, like the two preceding ones, is only indirect or secondary. It is but a part of either a narcotic or an erethistic operation.

These three classes, therefore, can only be admitted on probation. When the essential points in each case are fully settled, one or all of them may be taken into full fellowship. We should be as anxious to include all that are true as to exclude those that are false.

#### *False or Spurious Classes.*

The following classes are found in most systematic works:—1, anthelmintics; 2, refrigerants; 3, expectorants; 4, antispasmodics; 5, antilithics; 6, errhines; 7, sialogogues; 8, antidotes; 9, antiseptics; 10, specifics. Upon the plan here adopted these are all to be discarded, and for the same reasons that the first two—anthelmintics and refrigerants—were discarded when we were in search of the principles to guide us in selecting foundations for the new or remaining classes. The powers on which they are founded are all of them indirect or secondary. Dr. Tully retained errhines and sialogogues, however, but admitted that there was no true foundation for either of them.

*Anthelmintics.*

This is the place to make the suggestion proposed in regard to anthelmintics. The following is Dr. Tully's definition of the class, with the remark that follows:—"Anthelmintics are articles supposed to have a peculiar power: *first*, to obviate the morbid condition which is essential to the development of intestinal entozoä; *second*, to destroy them when they are developed; *third*, to evacuate them either living or dead." "The powers by which the development of intestinal entozoä is prevented and by which they are destroyed or evacuated are numerous, and are already the foundations of other classes, as I trust I shall show satisfactorily in my proëm to this spurious class. Accordingly, upon my plan there is no foundation for a class of anthelmintics."

Had the proposed proëm been published, we might have learnt something of his views of the *modus operandi* of such articles as koussou, male fern, pumpkin seeds, &c., which, so far as they affect the human system, must be considered as absolutely inert, but which have nevertheless proved quite efficient anthelmintics; and also of others, which, like *spigelia Marilandica*, pomegranate, oil of turpentine, &c., though they belong to one or another of the foregoing classes, yet are not at all dependent upon any power they exert upon the human system for their anthelmintic effects. If *spigelia* proves anthelmintic by virtue of its narcotic power, it must be the worms that are narcotized and not the patient; and so of pomegranate and turpentine, when they operate as anthelmintics it must be by their effects upon the worms themselves instead of the patient. And these are not the only articles used for this purpose, the success of which must be attributed, in whole or in part, to their operation upon the worms, independent of any power they exert upon the human system. There seems, therefore, to be an obvious necessity as well as a true foundation, even upon Dr. Tully's plan, for this class. If admitted, however, it might involve the necessity of some slight alteration in his definition of the word medicine, and also his definition of pharmacology itself. This appears to be an anomaly in the *modus operandi* of medicines which he had not in view at the time these definitions were made.

The class, if admitted, should be made up of such articles as have been mentioned, excluding those he had reference to as acting upon the alimentary canal in such a way as to prevent the development of worms, or to render it uninhabitable for them; and without reference to their *modus operandi* in their destruction or evacuation.

There are eighteen, or, if an anthelmintic power is admitted, nineteen of these elementary or fundamental powers in *materia medica*; and every article that is of any value in the treatment of diseases is so by virtue of its exerting one or another, or some combination of these. A specific may be defined an article that cures a given

disease by the exertion of some unknown power, and is therefore without the pale of scientific medicine.

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## THE BOSTON MEDICAL AND SURGICAL JOURNAL.

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BOSTON: THURSDAY, APRIL 27, 1865.

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**THE RUSSIAN EPIDEMIC.**—Of a sudden the world is startled by the intelligence that a fearful pestilence is ravaging Eastern Europe, and simultaneously we hear that it already threatens an invasion of the rest of that continent. Kingdoms are alarmed, and as instant information of its nature and progress is demanded of foreign ministers resident in Russia, as if it were the barbarous hordes of Muscovy themselves that were about to invade France and England. The quarter from which the danger threatens is indeed one to create alarm among the nations of Western Europe, for from the East have come in past centuries those terrible epidemics of the plague, the mere mention of which even now causes horror, and it was along the same fatal path that they watched the inevitable approach of that later scourge, the cholera. This pestilence appearing at Moscow in September, 1830, reached Riga in May and St. Petersburg in June of the following year. From Warsaw it extended to Dantzic and thence to other parts of Prussia, whence it continued its western course, reaching England in October. There is reason for alarm in Europe, then, for the same telegram which sends us the intelligence that the plague has broken out in St. Petersburg, and that the number of its victims has already reached 20,000, of whom forty were physicians, says—"in its steady advance towards the west it has now reached the Prussian frontier, and in a milder form already shown itself in the towns of Königsberg and Dantzic. In the Waldai hills, whole villages are said to be depopulated." Still later, we hear that it has appeared in Hanover and Brunswick.

There can be no doubt that a frightful epidemic of some kind is devastating Russia and the adjoining countries, but whether it is a new disease or a revival of the historic plague, which has never been wholly extinct in the East, and which as late as 1835 ravaged Egypt, we are as yet unable to determine. The Russian government, as usual, is extremely reticent in its publication of information respecting home matters, and the only reliable accounts which have yet reached England and France are from non-professional sources. From these reports it appears that several forms of disease of a very fatal character are prevailing in St. Petersburg, but whether they are various manifestations of one affection or distinct diseases, it is now impossible to say. It is reported that that city contains at present 43,000 more laborers than usual, and that they are to a great extent deprived of their ordinary supply of animal food, and are obliged to live almost wholly on rye bread, which contains a considerable quantity of spured grain. It is amongst this class that the mortality has been the greatest. The English ambassador, in his despatches to the

home government, states that the affection was unknown in Russia till eight months ago, and that it is contagious and is called relapsing, remittent or bilious typhoid, typhus recurrens, &c. M. Gworling, government physician at Perm, says that he has seen the same disease in America in 1857 and 1858, where it raged with such virulence as to be mistaken for yellow fever. The *Medical Gazette* of St. Petersburg states that it first appeared last autumn in the north-east and south-west portions of the Russian Empire, and has gradually approached the capital, where it seems to have acquired a tenfold virulence and rapidity of progress.

Dr. Tillner, physician to the Grand Duchess Maria of Russia, furnishes the following description, in the *Nazione* of Florence, of apparently but a single form of the disease :—

"The malady appears to be neither a fever of an intermittent or continuous nature, nor yet a simple typhoid fever; but it certainly is very virulent and dangerous. According to the opinions of the Russian physicians, it is the same fever that was observed for the first time in Scotland in the year 1819, and denominated in that country the intermittent fever, from the length of the intermissions and the prolonged attacks. This fever is ushered in by cold shivering, alternating with remarkable heat (from 40 deg. to 41 deg. centigrade, or 106 Fahrenheit), the pulse beating 130. Great prostration and disorder are observable in the nervous actions, although the state of the mental faculties remains unaltered; frequent pains are felt in the head and limbs, great pain is also felt in the left hypochondriac region, and an examination by palpation and percussion proves the spleen to have immensely increased in volume. The skin is yellow in color, owing to the liver being likewise affected by the malady. The initiatory attack of the fever lasts from seven to eight days, and terminates with a very copious perspiration. After the first paroxysm, an interval occurs of seven or eight days, during which the patient appears almost as well as ever, but at the expiration of that period a second attack manifests itself, like the first, but accompanied with still greater prostration. This continues also about seven days, terminating like the other, with profuse perspiration. Sometimes a third paroxysm declares itself after a further interval of seven days, one of the symptoms being a burning thirst and complete paralysis, and the patient sinks into the most profound state of prostration. The rate of mortality is 8 per cent., and the victims of this malady die during the second attack, usually from a kind of general paralysis, or through serious derangement of the nervous organs, with real decomposition of the blood, and an enormous increase in the spleen. The liver also becomes greatly enlarged, but the intestines, on the other hand, are either found healthy or else hardly congested. Everything has hitherto failed to shorten the duration of the febrile attacks. Salts of quinine, given in large and small doses, have been quite ineffectual to overcome the attacks characteristic of this malady. In the second paroxysm, in which there is increased prostration of the forces, the most powerful stimulants have been administered—such as moss wine, alcohol, ether, camphor, &c., but they produce little or no effect."

The latest accounts by telegraph to the *London Times* describe

three several maladies as existing at the same time in St. Petersburg. In October, meningitis spinalis appeared, by which children were chiefly attacked, the mortality being 20 to 50 per cent. The symptoms of this affection apparently closely resemble those of the recent epidemic of cerebro-spinal meningitis, or spotted fever, as it has been described in previous numbers of this JOURNAL as occurring both at the South and in New England, and which still lingers in many parts of our country, manifesting itself occasionally with great virulence in small towns, and not exhibiting any disposition to centre in populous cities. It is this form of the epidemic which has appeared in Poland and Prussia, the average mortality ranging from 30 to 60 per cent.

In November, typhus was added to the former affection, occurring at first periodically and gradually developing into a malignant species of febris recurrens. The fever lasts a week at a time, the several attacks being separated by intervals of this same length. During these intervals the health is apparently so good that the patients are dismissed from the hospitals, who soon afterwards die. A special committee has been appointed to look after those thus apparently cured. On the second or third attack, collapse, decomposition of the blood and paralysis generally ensue. The deaths, at first 20 per cent., have risen to 40 per cent. In many cases pustula maligna has been observed. Thus imperfect is the sketch, which comes to us by telegraph, of this form, which coincides with the description of Dr. Tillner above quoted.

Quite recently "Siberian plague" has also broken out. A strong disposition to vomit, which cannot be satisfied, swelling of the abdomen, pestilential carbuncles, and a dark color of the skin are its unmistakable symptoms. Of this 70 per cent. die in a few hours.

Whatever may be the nature of this affection, it behooves us, so far removed even as we are from its present advance, to be on our guard, and to enforce an immediate and strict quarantine of all vessels coming from northern European ports.

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THE accompanying letter addressed to Dr. Jackson, on the occasion of his resignation of the office of Visiting Physician to the Massachusetts General Hospital, by the medical officers of that institution, expresses so generally, as we believe, the opinion and good wishes of the profession of this city that we have asked permission to publish it.

*To Professor J. B. S. Jackson.*

DEAR SIR,—The undersigned have learned with great regret that you have resigned your office as attending physician to the Massachusetts General Hospital, which you have filled for a period of twenty-five years with great honor to yourself and with the greatest benefit to the Hospital, to science, and to humanity.

They beg leave to recal to your mind the immense strides which have been made during this period in the science of pathological anatomy, and more especially in its pursuit in this city, where one large museum of pathological specimens has been collected, and another one greatly increased and adorned by your efforts. During this time not only many classes of students, but also those advanced in the profession, have listened to your instructions, and have profited by your

example. For these services both the medical profession and the community at large are especially indebted to you.

Trusting that you may long continue your useful and distinguished career as a medical teacher, and that we may often have the pleasure of listening to your valued instructions at our medical meetings, and maintaining our agreeable private relations with you, we are, with considerations of the highest respect and regard,

Your obedient servants,  
*Boston, April 6, 1865.*

MEMBERS OF THE MEDICAL STAFF  
OF THE MASS. GEN. HOSPITAL.

THE DEATH OF DR. WILLIAM EDWARD COALE, which took place on Monday last, came very suddenly upon his professional and other friends. He was a native of Baltimore, and a graduate of the University of Pennsylvania, and for several years an assistant surgeon in the Navy. For the last twenty-two years he has been a practitioner in this city. Coming here a stranger, he soon had patients and friends to appreciate his talents and acquirements. Of a good family, having two signers of the declaration of independence amongst his ancestry, of parents whose honesty and fidelity were proved in times of vicissitude and adversity, Dr. Coale was trained to that conscientious discharge of his duties which has characterized his course as a student of medicine, as an officer in the navy, as a practitioner in a large city, as well as in his private relations to his family and friends. In the summer of the year 1862, he offered his professional services to the government, and showed his scientific skill and activity for several weeks in that memorable campaign of the Army of Virginia. His labors were appreciated by those who employed him and those to whom he ministered. With his natural tact and the experience he had enjoyed in the navy, he could discharge such duties satisfactorily to all concerned, and though obliged by sickness to give up and to return home, he went back to the work in November of the same year, and visited the military hospitals in Tennessee and Kentucky as an Inspector of the Sanitary Commission. With a predisposition to hepatic trouble, he contracted disease by exposure in those malarious regions, from which he never recovered and to which he has at last succumbed. His first years of professional life were given to the service of his country; his last years were marked by suffering contracted in the same service, and in him we have one of many instances in which civilians have lost their lives from disease contracted in the service of their country. At a period of life when many years of usefulness might be before him, with unabated activity in the pursuit of knowledge, with a kindly nature and a sympathizing heart, endearing him to friends and patients, he has suddenly been summoned to his account. He was for many years an officer of the Massachusetts Medical Society and an instructor in the Harvard Medical School; and his professional friends and associates as they stand beside that open grave must bear their testimony to his kindness, activity and fidelity, and say a word of sympathy to the bereaved family, whose loss in this world is irreparable, and whose only real comfort can be in looking forward to that re-union in the Heavenly Kingdom, where pain and sickness, parting and death are unknown.

**CAFFEINE IN THE KOLA-NUT.**—With a good supply of fresh Kola-nuts the white trader in Africa can generally secure the friendship and protection of the native chiefs. From time immemorial these nuts have been chewed by the negro tribes of the Western tropical regions, and their use has gradually extended over a considerable portion of the African continent. Strange to say, our best botanical treatises give us little information respecting these highly-prized seeds. They tell us that they are obtained from the Kola-tree (*Cola acuminata* or *Sterculia acuminata*), a plant belonging to the natural order *Sterculiaceæ* (or the Silk-Cotton family); but what they say about their use consists, for the most part, of incorrect statements culled from the works of old travellers. Thus in Professor Bentley's *Manual*, which is generally so trustworthy, the Kola-nuts are dismissed with a trivial notice of their supposed property of sweetening water that has become more or less putrid.

At a recent meeting of the Pharmaceutical Society, the true nature of the popular masticatory of West Africa was revealed in two excellent papers; one, by Dr. Daniell, giving full information respecting its history and properties, and the other, by Dr. Attfield, recording the results of a chemical analysis.

Dr. Daniell having found that the administration of a decoction of the fresh seeds, as a remedy for diarrhoea, was invariably attended with loss of sleep, suspected the presence of caffeine or some analogous principle. He thereupon commenced to seek for an alkaloid in the Kola-nuts, and succeeded, by a rough chemical process, in obtaining numerous aciform crystals resembling those of caffeine. That the validity of his discovery might be established by a more elaborate chemical examination, Dr. Daniell placed a quantity of the dried nuts in the hands of Dr. Attfield, the able director of the laboratories at Bloomsbury Square.

The result of Dr. Attfield's analysis has fully confirmed Dr. Daniell's discovery of caffeine in the Kola-nut. A quantitative determination showed that the proportion of the alkaloid present in the dried nut is two per cent. The proportion in coffee is from one-half to two per cent.; and in tea from one half to three and a half per cent.

Caffeine was discovered in coffee by Runge, in 1820. Seven years later, Oudry found in tea a crystalline substance which he called *theine*, supposing it to be a distinct compound; but Jobst and Mulder, in 1838, showed that it was identical with caffeine. Martius, in 1840, found the same substance in guarana; and Stenhouse, in 1843, obtained it from Paraguay tea. That the Kola-nut must now be added to the list of vegetable products containing caffeine is indeed a remarkable fact. Tea, coffee, guarana, Paraguay tea, and the Kola-nut are obtained from plants widely separated in botanical classification; yet they all contain the same principle, and are all used to satisfy a natural craving in man for nervous stimulants.

For further information respecting the chemistry of the Kola-nut, we must refer our readers to Dr. Attfield's elaborate paper.—*Chemist and Druggist*.

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**PREVENTION OF RUST IN IRON.**—Many a valuable hint is to be obtained from an intelligent practical laboring man, which may lead the



philosopher into a train of ideas that may, perhaps, result in discoveries or inventions of great importance. When bricklayers leave off work for a day or two, as from Saturday to Monday, they push their trowel in and out from the moist mortar, so that the bright steel may be smeared all over with a film of it, and find this plan an effectual remedy against rust. In Wren's "Parentalia" there is a passage bearing upon this subject:—"In taking out iron cramps and ties from stonework, at least 400 years old, which were so bedded in mortar that all air was perfectly excluded, the iron appeared as fresh as from the forge." Oxygen, which is the main cause of rust, is abundant in the composition of both water and the atmosphere; and that quicklime has an astonishing affinity for it is evinced in the homely practice of preserving polished steel or iron goods, such as fire-irons, fenders, and the front of "bright stoves," when not in use, by shaking a little powdered lime on them out of a muslin bag, which is found sufficient to prevent their rusting. Another instance, very different and far more delicate, bearing upon the same principles: the manufacturers of needles, watch-springs, cutlery, &c., generally introduce a small packet of quicklime into the same box or parcel with polished steel goods, as security from rust, before sending it to a distant customer, or stowing it away for future use. These cases are extremely curious, because, as a general rule, bright steel or iron has a most powerful affinity for oxygen; consequently it is very readily acted upon by damp, and is rusted in a short time, either by decomposing the water and obtaining oxygen from that source, or direct from the atmosphere. It is not absolutely essential that the quicklime should be in actual contact with the metal, but if somewhere near, as in the case of the parcel of lime packed up with the needles or watch-springs, the bright metal will remain a long while without the least alteration in its appearance; the lime (which is already an oxide of calcium) either receiving an additional dose of oxygen or being converted into a carbonate of lime.—*American Druggist's Circular*.

VIRCHOW AND THE CELLULAR PATHOLOGY.—A correspondent from Berlin writes:—"Perhaps the most important thing I have to tell you is as to a recent change in Virchow's opinion regarding the cell theory. This change has been caused by the discoveries of Recklinghausen (*Virchow's Archives*, about a year ago) in the cornea. He has shown that the corneal cells have not special cell-walls, but are merely spaces between masses of intercellular substances. The nuclei in the angles he therefore considers *free*, and he says that many of them can move along the canaliculi from one angle to another. Moreover he says that the interior of these canals is continuous with that of the lymphatics; you can inject the lymphatics from them; so that, according to him, the origin of the lymphatics is to be found in the canaliculi of the so-called connective-tissue corpuscles. Then he says that the corpuscles of tendon and connective tissue are merely spaces with contained nuclei—a view which, of course, is *not new* to an Edinburgh man. Virchow admits all this; he admits that the corneal corpuscles are not cells. He seems rather reluctant to admit that those of tendon and connective tissue are the same, but he does not deny it; and he told me personally that he *now did not regard a cell-wall as an 'es-*

sential part of the cell,' as stated in Cellular Pathology; but that a nucleus surrounded by a molecular blastema was sufficient to constitute a cell; then he says that the outer part of this cell blastema consolidates and forms a cell-wall, as Beale has shown, and that this takes place in the amoeba when placed in fresh water. This of course is a great triumph for Goodsir, who long ago was cautious enough not to say that the cell-wall is always present."—*Med. News and Library*, from *Edinburgh Med. Jour.*

**TINNED WIRE FOR SUTURES.**—We have received a letter from Dr. Goodale, of Portland, Me., containing a sample of fine Swedish iron wire coated with tin, which, as he suggests, appears to be applicable to all the uses in surgery to which silver wire is put. It is manufactured in that city at the very reasonable price of 60 cents per pound.

IN Dublin about one fourth of the whole hospital accommodation in the Hardwicke Fever Hospital is occupied by cases of smallpox.—In India, it is said 7000 out of a population of 50,000 of the native inhabitants of Lahore have fallen victims to it within two months.—The prevalence of smallpox in Algiers has induced the French medical practitioners to instruct the natives in the practice of vaccination.

The "Ward" U. S. General Hospital, Newark, N. J., Assistant Surgeon J. Theodore Calhoun, U. S. Army, commanding, which has hitherto consisted of some old factories, is henceforth to be a pavilion hospital of the modern style.

An effort is being made to have a dental college incorporated by the New York Legislature, to be located in New York city.

**VITAL STATISTICS OF BOSTON.**  
FOR THE WEEK ENDING SATURDAY, APRIL 22D, 1865.  
DEATHS.

	Males.	Females.	Total.
Deaths during the week	63	46	109
Ave. mortality of corresponding weeks for ten years, 1853—1863,	44.2	38.3	82.5
Average corrected to increased population	00	00	90.75
Death of persons above 90	0	0	0

THE following communications have been received:—Valedictory Address at the Massachusetts Medical College; Construction of Hare-lip Pins; Case of Death from Suffocation; Case of Persistent Gestation; Ophthalmic Operations at the City Hospital.

**DIED.**—In this city, 24th inst., William Edward Coale, M.D., 49.—At Milton, Vt., 10th inst., by his horse falling with him, Dr. N. W. Fairchild.—In this city, 18th inst., W. A. Arthur Folts, a student of medicine, aged 21 years.—In Augusta, Me., Dr. Ezekiel Holmes, for nearly a third of a century chief editor of the *Maine Farmer*, aged 63. He received the degree of Doctor of Medicine from Bowdoin College in 1824.

**DEATHS IN BOSTON** for the week ending Saturday noon, April 22d, 109. Males, 63—Females, 46. Abscess, 1—accident, 7—apoplexy, 1—inflammation of the bowels, 1—disease of the brain, 2—bronchitis, 2—burns, 2—cancer, 1—cholera infantum, 2—consumption, 15—convulsions, 1—croup, 5—debility, 1—diarrhea, 1—diphtheria, 1—dropsy, 2—dropsy of the brain, 8—drowned, 1—erysipelas, 2—typhoid fever, 2—hemorrhage, 1—disease of the heart, 2—homicide, 1—infantile disease, 5—insanity, 1—intemperance, 1—jaundice, 1—disease of the kidneys, 1—ulceration of the larynx, 1—inflammation of the lungs, 8—marasmus, 2—old age, 2—paralysis, 1—peritonitis, 2—premature birth, 1—rheumatism, 1—scalded, 1—smallpox, 10—syphilis, 1—teething, 1—unknown, 6—whooping cough, 1.

Under 5 years of age, 36—between 5 and 20 years, 20—between 20 and 40 years, 26—between 40 and 60 years, 16—above 60 years, 11. Born in the United States, 76—Ireland, 23—other places, 10.